

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on December 8th, 2004. Those in attendance were:

Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Greg Perfetti	State Bridge Design Engineer (Co-Chairman)
Allen Raynor	Assistant State Bridge Design Engineer
Paul Lambert	Structure Design Project Engineer
Tom Koch	Structure Design Project Engineer
Ron Hancock	State Bridge Construction Engineer
Chris Britton	Taylor and Murphy Construction Co.
Richard Holshouser	Sanford Contractors, Inc.
Mark Lively	Crowder Construction
Greg Canniff	Rea Contracting
Chris Kreider	Regional Operations Engineer – Geotechnical Unit
Scott Hidden	Support Services Supervisor – Geotechnical Unit
Gichuru Muchane	Structure Design Engineer

During the review of the October 7th, 2004 meeting minutes, the following items were discussed:

1. Contract times

Mr. Hancock reported that the committee reviewing contract times would convene after the AGC-DOT Committee meeting. He invited all members of the AGC-DOT Committee to participate in the review meeting. Mr. Hancock anticipated holding two to three meetings to complete the contract time review process.

2. Optional 10" Backwalls on Integral Abutments

Mr. Muchane reported that Structure Design is investigating the structural capacity of an optional 10" backwall for integral abutments. He stated that preliminary results suggest that Structure Design may require a minimum offset distance from the crane to the back wall. Other constructibility issues raised are still under review.

The minutes of the October 7th, 2004 meeting were approved.

The following items of new business were discussed:

1. Use of Split Precast Box Culverts

Mr. Koch reported on a recent tour of Oldcastle Precast's facility in Concord, North Carolina. He stated that purpose of the tour was to view horizontally split precast box culvert units currently under production at the facility.

Mr. Hancock stated that a previous split box culvert project did not proceed smoothly due to site conditions and ensuing fit-up problems. He added that Mr. Billy Trivette – Bridge Construction Engineer, suggested trying the split culvert with staggered vertical joints. However, precast producers do not recommend this method because it may cause point loads to develop as a result of differential settlement.

Mr. Holshouser stated that in the past precast box culverts generally had fit-up problems. He inquired if the quality control had improved with dimension tolerance requirements and match marking procedures. Mr. Raynor noted that the precast culverts at the Oldcastle facility were produced using self consolidating concrete, which is suitable for thin walled concrete products.

Mr. Koch noted that the advantage of the split box culverts is that they require smaller construction equipment for installation. Mr. Hancock stated that NCDOT is not encouraging use of precast split box culverts, but will consider special requests when site conditions warrant their use.

2. *Pile Dynamic Analyzer*

Mr. Krieder stated that the Geotechnical Unit is considering a new way of acquiring Pile Dynamic Analyzer (PDA) services. He stated that in the past Geotechnical Unit personnel conducted the pile dynamic load tests and contractors were required to provide support. The Geotechnical Unit now hires consultants for PDA services and contractors provide support as stated in the Special Provisions. Mr. Kreider stated the Geotechnical Unit is proposing to include a pay item for PDA services in contracts, thus requiring the contractor to hire the consultant for PDA services. He added that the proposed method is intended to improve flow of information between all parties, shorten the contractor's waiting time for approval of pile driving operations, and in general increase efficiency over the current method.

Mr. Holshouser stated that their experience with consultants who perform PDA services has been very positive, since the personnel performing the work are generally very knowledgeable and are able to share information on pile driving. Mr. Jenkins commended the NCDOT units represented on the AGC-DOT Committee for often considering impacts of delays on the contractors. He added that scheduling is a major consideration for contractors.

Further general discussion included the flow of information under the new method, consulting firms that qualify for PDA services, and the scope of PDA work that would be the contractor's responsibility.

Messrs. Jenkins and Holshouser each stated that there was a consensus among the contractors to provide PDA services under the proposed new method. *Mr. Hidden will develop a Drilled Pier Specification and the Special Provisions once all of the details have been worked out.*

3. *Other*

- i. Mr. Jenkins introduced Mr. Greg Canniff of Rea Contracting, LLC. He stated that Mr. Canniff would be replacing Mr. Michael Derksen on the AGC-DOT committee because Mr. Derksen is unable to serve due to a company transfer.
- ii. Mr. Muchane passed out a detail that will accompany a new policy on chamfering acute end bent corners. Mr. Muchane stated the detail would eliminate unnecessary acute corners, which are difficult to form on end bents. Contractors agreed that the acute corners are difficult to form, and were therefore in favor of the new detail.

Mr. Perfetti inquired if it would be helpful if the inside acute corner of the wing wall and backwall were also chamfered. Mr. Britton responded in the affirmative, and suggested a 12" chamfer. *Structure Design stated they would review the details.*

4. *Next Meeting*

The next meeting is scheduled for February, 9th 2005 in the Structure Design Unit conference Room C. Tentative dates for meetings in 2005 are April 13th, June 8th, August 10th, October 12th, and December 14th.